L4: Entry 4 of 29 File: PGPB Jul 11, 2002

DOCUMENT-IDENTIFIER: US 20020088353 A1
TITLE: Calender arrangement and a deflection controlled roll and method of operating them

Abstract Paragraph (1):
A calender arrangement includes end rolls that are in the form of deflection controlled rolls having an internal stroke. One of the end rolls comprises at least one stop element that is in the form of a hydraulic positioned hydrostatic element which, together with the internal wall of the roll sleeve, defines a gap. When a constant throughput of hydraulic medium is fed in, an equilibrium of forces is produced, at which equilibrium the roll sleeve is positioned. The pressure built up in the process is a measure of the positioning forces. Small departures from the target position are permitted without control intervention.

Summary of Invention Paragraph (2):
[0002] The invention relates to a calender arrangement for treating a product web, especially a paper web. The invention relates also to a deflection controlled roll having internal roll sleeve stroke and to a method of fixing an operating position of such a deflection controlled roll when it is being used as an end roll in a stack of rolls of a calender arrangement.

Summary of Invention Paragraph (3):
[0003] From DE 30 04 913 C2 it is known to use a deflection controlled roll both for the upper and lower end roll of a stack of rolls in a calender, in which deflection controlled roll the roll sleeve is supported by hydrostatic sleeve support elements on a roll axle that is secured against rotation in lateral bearings, and is movable vertically relative to the roll axle, that is to say it is provided with an internal roll sleeve stroke. The intermediate rolls of the stack of rolls are also configured so as to be movable vertically. Since the vertical position of the entire stack of rolls must be preset in some manner during operation, stops are provided for that purpose. The roll axle of each deflection controlled roll accordingly passes through a vertical elongate hole in a bearing side support of the roll sleeve in such a manner that the roll sleeve is movable vertically relative to the roll axle within the range of the elongate hole. Under the influence of the sleeve and loading arrangement, the roll sleeve of one end roll moves in the vertical direction until at both its ends it comes to rest with the stop of the elongate hole against a counterstop associated with the roll axle and thus reaches a defined preset position (operating position) of the roll sleeve and therefore of the entire stack of rolls, and is held in that operating position during operation. A disadvantage therein is that during operation of the calender unavoidable vibrations of the machine parts. intensified by a rigid mechanical stop, are transferred to the roll sleeve and to the entire roll system and may result in an impairment of the product web to be treated. It is a further disadvantage that only one position, namely the outermost eccentric position of the roll sleeve stroke, which is provided by a rigid mechanical stop, serves to preset the operating position. The fact that the roll sleeve is supported in the stop also means that the line load profile has restricted (limited) controllability.

Summary of Invention Paragraph (4):
[0004] From DE 34 16 210 C2 there is known a roll press having an end roll, in which the roll sleeve is mounted near its end on the associated roll axle. Arranged in the region of the bearings are force sensors, the output signals of which so influence a controller for the supporting forces of the hydrostatic support elements acting upon an internal circumference of the roll sleeve that the detected forces are minimized, that is to say, as small forces as possible are transferred to the roll sleeve by way of the bearings. In the development of that arrangement according to DE 39 09 911 C1, hydraulic force sensors are used. A disadvantage thereof is that such an end roll

without internal roll sleeve stroke relative to the roll axle cannot be used as a self-loading deflection controlled roll that enables substantially more precise setting and control of the loading forces, that is to say of the line load profile. A further disadvantage is the complexity of the control system and the limitation to only one vertical operating position of the roll sleeve.

Summary of Invention Paragraph (6):
[0006] From DE 39 18 989 C1 it is known, in a deflection controlled roll, for the vertical extension movement of hydrostatic support elements that bear against the roll axle so as to be vertically displaceable and that act by at least one open hydrostatic bearing pocket against an internal circumference of the roll sleeve to be limited by means of stops. When a stop is reached, the support element is secured mechanically and cannot extend further. This results in a specific positioning of the roll sleeve relative to the roll axle. A disadvantage thereof is that the positioning is effected by the actual transmission of forces for setting the line load and, consequently, alters with the latter, resulting in changes in reference position in dependence upon changes in the transmission of forces.

Summary of Invention Paragraph (9):
[0009] A further problem is to provide a deflection controlled roll which enables positioning of the roll sleeve relative to the roll axle in an operating position without substantial additional expenditure.

Summary of Invention Paragraph (11):
[0010] A calender arrangement is accordingly provided in which an end roll is configured as a deflection controlled roll having internal stroke and is arranged to be fitted with the device for positioning the roll sleeve relative to the roll axle. In the operating state of the calender, the roll sleeve is held in an operating position by means of the positioning device. The roll sleeve carries displaceable intermediate rolls of a stack of rolls. Mounting the roll sleeve on support elements and on at least one stop element enables extremely precise setting and control of a line load profile in the entire roll nip.

Summary of Invention Paragraph (12):
[0011] The opposite end roll can also be configured as a deflection controlled roll having internal stroke and which can be equipped in the same manner as the one end roll.

Summary of Invention Paragraph (15):
[0014] According to claim 19, a deflection controlled roll having internal roll sleeve stroke is provided that enables positioning of the roll sleeve by hydraulic means. The hydraulic stopper operates by virtue of the limited element stroke, which secures it on the roll axle with a selectable stroke, in the manner of an overflow valve, and thus stops and holds the roll sleeve in a selectable operating position. Within the range of the internal stroke, the deflection controlled roll can accordingly be displaced to a predeterminable position and fixed there.

Summary of Invention Paragraph (23):
[0022] It is also advantageous to incorporate the deflection controlled roll according to the invention into a calender in such a manner that the stoppers are arranged on the backward-facing side of the roll. In the event of pressure changes, which are admittedly small in troublefree normal operation, local departures from the line loading can thus be minimized.

Brief Description of Drawings Paragraph (2):
[0025] FIG. 1 is a longitudinal section of a deflection controlled roll having stoppers according to a first embodiment;

Brief Description of Drawings Paragraph (6):
[0029] FIGS. 5a-5c are diagrammatic side views of three calender arrangements according to the invention having deflection controlled rolls according to FIG. 1 where the stack planes are vertical, oblique, and horizontal, respectively;

Brief Description of Drawings Paragraph (8):
[0031] FIG. 7 is a longitudinal section of a deflection controlled roll having stoppers according to a second embodiment;

Brief Description of Drawings Paragraph (10):
[0033] FIG. 9 is a longitudinal section of a deflection controlled roll having stoppers

according to a third embodiment;

Brief Description of Drawings Paragraph (12):
[0035] FIG. 11 is a longitudinal section through a deflection controlled roll having stoppers according to a fourth embodiment;

Detail Description Paragraph (2):
[0039] FIG. 1 shows a first embodiment of a self-loading deflection controlled roll that can be used, for example, as a lower end roll 62 of a calender arrangement, which deflection controlled roll has a roll axle 10, the projecting ends of which can be secured against rotation in a calender frame 12 (merely indicated) (see FIG. 5). Mounted to rotate about the roll axle 10 is a roll sleeve 14, which can be displaced radially relative to the roll axle 10 by means of at least one guide insert, for example side supports 11, and which is supported on the roll axle 10 by means of radially displaceable hydrostatic support elements 16. The roll axle 10 is spaced on all sides from the internal circumference 13 of the roll sleeve 14 so that the roll sleeve 14 can be displaced vertically relative to the roll axle 10. The deflection controlled roll thus has a so-called internal stroke. The support elements 16 are oriented vertically upwards and carry the roll sleeve 14 in the embodiment according to FIG. 5a where the rolls are arranged in a vertical stack plane. Alternatively, the rolls may be arranged in an oblique stack plane (FIG. 5b) or in a horizontal plane (FIG. 5c).

Detail Description Paragraph (14):
[0051] To close a stack of rolls of a calender arrangement according to FIGS. 14a and 14b, in which the above-described deflection controlled roll is arranged as a lower end roll 62, the following takes place. The volumetric flow of the hydraulic oil is sent to the two secured, backward-facing stoppers 20. The pressure at that moment is virtually zero since the roll sleeve 14 bears down in the bearings and the secured stoppers 20 have no contact with the roll sleeve 14. In the next step, a support piston pressure is activated at the hydrostatic support elements 16 and the roll sleeve 14 is thus raised. When the secured stoppers 20 make contact with the roll sleeve 14, backward-directed forces build up which prevent the roll sleeve 14 from rising further. The roll sleeve 14 is in the preset operating position. After closure of the stack of rolls, the roll sleeve 14 is clamped at that operating position hydraulically as explained above, it being possible to set the supporting forces of the support elements 16 according to the predeterminable line forces in the nips.

Detail Description Paragraph (17):
[0054] Let it be assumed that the roll sleeve 14 has been completely lowered. This is shown, for example, in FIG. 14a, where the above-described deflection controlled roll forms a lower end roll 62 of a calender, above which roll there is arranged an intermediate roll 63. The nip lying between the two rolls 62, 63 is open.

Detail Description Paragraph (32):
[0069] FIGS. 9 and 10 show a third embodiment of a suitable deflection controlled roll in which a stopper 70 is provided with a holding bolt 28 and forms a group with at least one hydrostatic support element 71 without a holding bolt. In that variant the support element 71 without a holding bolt always rests against the internal circumference 13 by means of a support piston pressure, that is to say even when the roll sleeve 14 has moved away from the stopper 70. For that purpose the elements 70, 71 are connected via lines 73, 74 to a common pressure supply line having a volumetric pressure source.

CLAIMS:

16. A deflection controlled roll for use with a calender for treating a product web, said roll comprising: a non-rotating roll axle; a roll sleeve received over the roll axle so that said roll sleeve can both rotate and move radially to the roll axle; and inside loading means disposed in at least one row on the non-rotating axle for supporting the roll sleeve, said inside loading means for comprising; a plurality of first hydrostatic supports which are radially displaceable relative to the non-rotating roll axle to provide an internal roll sleeve stroke; at least one stop element disposed on a side of the non-rotating roll axle opposite to the hydrostatic supports, said element comprising: a second hydrostatic support element including a piston which is positioned in a cylinder bore and on which a pressure element is applied to move the piston radially under force relative to the roll axle; and a stop member to adjustable limit such radial movement to a predetermined maximum displacement relative to the roll axle to place a surface of the piston next to an inner surface of the roll sleeve by

including a seal gap, and means for delivering a constant flow rate of a hydraulic medium into the cylinder bore, and the piston having passages through which said fluid flows into and out of the seal gap.

17. A deflection controlled roll as in claim 16, further comprising a device for measuring a change in pressure in the gap between a surface of the piston and an inner surface of the roll sleeve and a signal indicator connected to the pressure charge measuring device which indicates radial position change of the roll based on a change in pressure.

18. A deflection controlled roll as in claim 17, wherein the pressure change measuring device comprises a pressure sensor which measures a pressure of the hydraulic medium.

19. A deflection controlled roll as in claim 17, further comprising a control device which controls the hydraulic medium delivering means in response to the pressure measured by the pressure measuring device.

20. A deflection controlled roll as in claim 16, further comprising a pressure limiting valve connected to the hydraulic medium delivering means to limit a maximum pressure in the gap.

21. A deflection controlled roll as in claim 16, further comprising a pump and a supply line which connects an output of the pump to the hydrostatic supports.

22. A deflection controlled roll as in claim 21, wherein the pump comprises a positive displacement pump.

23. A deflection controlled roll as in claim 21, wherein the hydrostatic supports comprise hydrostatic bearing pockets connected to the supply line.

24. A deflection controlled roll as in claim 23, further comprising a seal around the bearing pocket.

25. A deflection controlled roll as in claim 16, wherein the stop element comprises at least one bolt which is adjustably positionable relative to the axle.

26. A deflection controlled roll as in claim 16, including at least two step elements disposed symmetrically with respect to the middle of the length of the sleeve.

27. A deflection controlled roll as in claim 26, wherein the at least two stop elements are spaced inwardly from each side of the sleeve by one-quarter the length of the sleeve.

28. A method for calendering a web, said method comprising: passing the web through nips between rolls arranged in a stack along a stack plane, including deflection controlled end rolls and intermediate rolls between said deflection controlled end rolls, delivering a pressure of force to at least one of said deflection controlled end rolls, being a self-loaded roll, to maintain a predetermined value of an internal stroke length, delivering a hydraulic medium at a constant flow rate to that at least one deflection controlled end rolls, wherein the hydraulic medium flows between a gap between a hydrostatic support element and an inner surface of the roll sleeve so that a radial movement of the roll sleeve narrowing the gap increases the pressure of the hydraulic medium to keep the gap and movement of the roll sleeve enlarging the gap decreases the pressure of the hydraulic medium to keep the gap.

29. A method as in claim 28, further comprising measuring the pressure of the hydraulic fluid, comparing the measured pressure with a target pressure, and adjusting the position of the at least one upper and lower deflection controlled rolls based on a difference between the measured and target pressures.

L4: Entry 21 of 29 File: USPT Feb 28, 1995

DOCUMENT-IDENTIFIER: US 5393290 A
TITLE: Roll with adjustable deflection

Abstract Text (1):
A roll for the thermal treatment of a web of material (4) in which the web of material (4) is cooled to a defined predetermined temperature in a gap (5) between the roll (1) and a counter-roll (2) is formed as a deflection controlled roll with a rotationally fixed carrier (8) and a rotatable roll jacket (10) which is supported relative to the latter with support elements (11). The roll jacket consists of a plurality of concentric zones, an inner soft zone (16) and a thin outer zone (17) with good thermal conductivity, for example of metal. The roll surface (22) is for example cooled with cooling gas nozzles which are regulated by a temperature sensor (20) so that the roll temperature in the gap (5) adopts a defined temperature value. A roll of this kind is for example suitable for use in a calender for the smoothing of a paper web or also for the processing or manufacture of a plastic foil.

Brief Summary Text (3):
Such so-called deflection controlled rolls equipped with support elements of controllable support force and having a multi-layered roll jacket are for example known from DE 35 25 950 and are used for the thermal treatment of webs of material. In this arrangement, the individual layers of the roll jacket have differing physical, and in particular thermal, characteristics.

Brief Summary Text (4):
As a rule, the inner zone of the roll jacket consists of a hard material, for example metal, and the outer zone of a soft material, for example an elastomer such as soft caoutchouc or the like. Such deflection controlled rolls with roll jackets of this known kind are however only conditionally suited for some uses, for example for the thermal treatment of a paper web in a smoothing calender or for the thermal treatment or manufacture of a plastic foil. It is in particular a disadvantage that the outer zone has a poor thermal conductivity so that good thermal dissipation is not guaranteed and the temperature can only be kept inadequately constant during the treatment of the web of material.

Brief Summary Text (5):
The use of deflection controlled rolls for plastic foil pouring plants is for example known from DE-A-33 00 251. In this arrangement the flowable plastic composition is directed between two rolls and is brought to a desired thickness profile during solidification by means of the controllable support force of the support elements of the deflection controlled roll. Such deflection controlled rolls with roll jackets of the known kind are however only poorly suited for certain plastics which exhibit a relatively sudden transition between the flowable and the solid state in a narrow temperature range. On the one hand, with such rapidly solidifying plastics, for example polyethylene, the pressing and thickness control processes must take place at a precisely determined time point at a temperature which is as exact as possible, which is not required to the same degree with thermoplastics with a larger solidification range. On the other hand, rapidly solidifying plastics tend to stick during the solidification process to the customary roll surfaces.

Brief Summary Text (9):
Through the selected combination of layers of specific characteristics and thicknesses, it is on the one hand possible to exploit the advantages of a deflection controlled roll in its entirety and, on the other hand, to ensure a sensitive and exact temperature control in the roll gap since the thermal capacity of the outer zone can be accurately predetermined through the choice of the material and the thickness dimension and no disturbing influence is present through the inner zone.

Detailed Description Text (2):
In the arrangement shown in the figures, a deflection controlled roll 1 cooperates with a counter-roll 2 which can be formed as a conventional solid or hollow roll or can however likewise be a deflection controlled roll. A flowable plastic mass 4 flows out of an extruder 3 into the gap 5 between the rolls 1 and 2 and solidifies there into a plastic foil 6 which is led away via a deflection roll 7.

Detailed Description Text (3):
The deflection controlled roll 1 has a carrier 8 which is rotationally fixedly mounted in a frame 9 but which is, however, tiltably journalled to a restricted degree, as is for example known in detail from U.S. Pat. No. 3,802,044 or U.S. Pat. No. 3,885,283. A roll jacket 10 is supported relative to the carrier by a row of support elements 11 and is rotatable about the carrier 8. The support elements 11 can be hydrostatic support elements as is known, for example, from U.S. Pat. No. 3,802,044. The support elements 11 are displaceable in the support direction in the carrier 8 in a cylinder guide 12 supplied with hydraulic pressure fluid and have a hydrostatic support surface 13 at their front end which is supplied with hydraulic medium from the cylinder space 12 via restrictor bores 14. This permits a low-friction rotation of the roll jacket 10.

Detailed Description Text (6):
At the ends, the deflection controlled roll 1 is advantageously sealed off by seals 15 which, in known manner, can also be formed to journal the roll jacket 10 on the carrier 8 or to guide the roll jackets-ends in the support direction, as for example described in U.S. Pat. No. 3,885,283.

Detailed Description Text (13):
The counter-roll 2 can be analogously constructed to the deflection controlled roll 1 or can be formed as a solid or hollow roll with a likewise mirror-smooth surface.

Detailed Description Text (14):
In one practical embodiment which satisfies the relevant requirements for a plastic foil pouring plant for polyethylene with a solidification temperature of 60.degree. C., a foil or roll width of ca. 6 meters, and a diameter of the deflection controlled roll of 4 cm, the core zone consisted of 8 cm thickness of soft caoutchouc of Shore A hardness of 62 on the outer side of which there was arranged a 0.2 mm thick layer of copper, the outer surface of which was hard-chromed with a mirror-smooth surface.

Detailed Description Text (18):
It is of particular advantage to form the outermost layer in the form of a very thin layer with a thickness of up to 0.1 mm, which is for example applied galvanically or by vapor deposition, with a very hard but nevertheless flexible surface being obtained which in no way influences the effectiveness of the deflection controlled roll, but nevertheless ensures ideal temperature regulation in the respective gap, in particular in conjunction with a carrier layer having a high thermal conductivity which is then disposed between this thin layer and the elastic inner zone, which is preferably of multi-layer construction.

WEST

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L2: Entry 4 of 6 File: DWPI Jan 9, 2003

DERWENT-ACC-NO: 1997-387570
DERWENT-WEEK: 200305

TITLE: Adjustable bending roller - has the roller bearing housing keyed to the yoke against rotation for simplified support and roller change

INVENTOR: GEROMILLER, J; MESCHENMOSER, A ; STOTZ, W G

PRIORITY-DATA: 1996DE-1003652 (February 1, 1996)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
DE 59708787 G	January 9, 2003		000	F16C013/02
EP 787912 A2	August 6, 1997	G	011	F16C013/02
DE 19603652 A1	August 7, 1997		010	F16C013/00
US 5928121 A	July 27, 1999		000	B30B003/04
DE 19603652 C2	June 21, 2000		000	F16C013/00
EP 787912 B1	November 27, 2002	G	000	F16C013/02

INT-CL (IPC): B30 B 3/04; D21 G 1/02; F16 C 13/00; F16 C 13/02

ABSTRACTED-PUB-NO: EP 787912A
BASIC-ABSTRACT:

The roller with an adjustable bend has a bearing housing (6) with at least at one end keyed at the yoke (3) against rotation, within the roller mantle or an axial extension (13) of the roller mantle.

The bearing housings at both ends of the roller can be keyed to the yoke, against rotation, and/or a pair of guides in the roller press plane within the space between the roller mantle or axial extension (13) at the yoke and guide extension (7) of the bearing housing, and on diametrically opposite sides of the yoke.

USE/ADVANTAGE - For processing fibre webs of paper or cardboard. The torque support system is simplified, and a roller change is not impeded by the torque supports.
ABSTRACTED-PUB-NO:

US 5928121A EQUIVALENT-ABSTRACTS:

The roller with an adjustable bend has a bearing housing (6) with at least at one end keyed at the yoke (3) against rotation, within the roller mantle or an axial extension (13) of the roller mantle.

The bearing housings at both ends of the roller can be keyed to the yoke, against rotation, and/or a pair of guides in the roller press plane within the space between the roller mantle or axial extension (13) at the yoke and guide extension (7) of the bearing housing, and on diametrically opposite sides of the yoke.

USE/ADVANTAGE - For processing fibre webs of paper or cardboard. The torque support system is simplified, and a roller change is not impeded by the torque supports.

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L2: Entry 5 of 6 File: DWPI Jun 16, 1994

DERWENT-ACC-NO: 1994-201220
DERWENT-WEEK: 199425

TITLE: Paper roller press assembly - has swing movement between brackets and bearing pedestals for roller journals to give only draw forces on tie rods without bending action

INVENTOR: SCHIEL, C

PRIORITY-DATA: 1992DE-4242022 (December 12, 1992)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
DE 4242022 A1	June 16, 1994		006	B30B003/00
CA 2111307 A	June 13, 1994		000	D21F003/08
FI 9305563 A	June 13, 1994		000	B30B003/00
JP 06248592 A	September 6, 1994		005	D21F003/06
US 5413036 A	May 9, 1995		006	B30B003/04

INT-CL (IPC): B30B 3/00; B30B 3/04; D21F 3/06; D21F 3/08; D21G 1/02

ABSTRACTED-PUB-NO: DE 4242022A
BASIC-ABSTRACT:

In the roller press assembly, brackets (31) carry the bearing pedestals (5) to hold the roller journals (2). A linkage between the brackets (31) and the bearing pedestals (5) allows the bearing pedestals (5) to swing round an axis (34) at right angles to the press plane (E) and generally on the axial plane of the respective roller (1,3).

Pref. the roller journals (2) are mounted in the bearing pedestals (5) with ball cups. The swing mounting between the bracket (31) and bearing pedestal (5) has pins (33) in drillings (32). The separate brackets (31) and their bearing pedestals (5) can slide in relation to each other towards the roller axis, by a sliding block at one part and a sliding path for it at the other part.

USE/ADVANTAGE - The roller press assembly, esp. for the paper industry, uses a press gap between two rollers for the material to pass between them. The assembly structure applies only drawing forces on the tie rod system, without exerting a bending action on them.
ABSTRACTED-PUB-NO:

US 5413036A EQUIVALENT-ABSTRACTS:

The roll press comprises two press rolls; journals at respective ends of each roll; respective pillow block for receiving each journal; a rack for supporting the pillow blocks; a tie rod extending between respective pillow blocks on each side of an parallel with the press plane; a cradle for supporting respective pillow blocks and movable relative to others in direction of roll axis; and an articulated joint between each cradle and pillow block to enable the block to pivot.

USE/ADVANTAGE - Used for paper making. The roll press eliminates bending stress on tie rods.

Query/Command : prt fu 1-18

1 / 18 INPADOC - ©INPADOC

PN - IT 7820026 A0 19780206 [IT7820026]
TI - CILINDRO AD INFLESSIONE REGOLATA.
PA - ESCHER WYSS AG [CH]
AP - IT 20026/78-A 19780206 [1978IT-0020026]
PR - CH 1967/77-A 19770217 [1977CH-0001967]
IC - F16C-000/00
ND - IN IV

2 / 18 INPADOC - ©INPADOC

PN - US 4249290 A 19810210 [US4249290]
TI - CONTROLLED DEFLECTION ROLL
IN - LEHMANN ROLF [CH]
PA - ESCHER WYSS LTD [CH]
AP - US 876632/78-A 19780210 [1978US-0876632]
PR - CH 1967/77-A 19770217 [1977CH-0001967]
IC - B21B-013/02

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PN - SE 7801252 A 19780817 [SE7801252]
TI - NEDBOJNINGSINSTELLNINGSVALS
IN - LEHMANN R
PA - ESCHER WYSS AG [CH]
AP - SE 7801252/78-A 19780202 [1978SE-0001252]
PR - CH 1967/77-A 19770217 [1977CH-0001967]
IC - D21G-001/02

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PN - NL 7801107 A 19780821 [NL7801107]
TI - INSTELBARE DOORBUIGINGSWALS.
PA - ESCHER WYSS AG
AP - NL 7801107/78-A 19780131 [1978NL-0001107]
PR - CH 1967/77-A 19770217 [1977CH-0001967]
IC - D21G-001/02; B65H-027/00; F16C-013/00
ND - IN IV AR

5 / 18 INPADOC - ©INPADOC

PN - JP 53103005 A2 19780907 [JP53103005]

TI - SAG ADJUSTING ROLL
IN - RORUFU REEMAN
PA - ESCHER WYSS AG
AP - JP 15982/78-A 19780216 [1978JP-0015982]
PR - CH 1967/77-A 19770217 [1977CH-0001967]
IC - D21F-003/08; D06C-015/08; D21G-001/02; F16C-013/00
ND - AR

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6 / 18 INPADOC - ©INPADOC
PN - IT 1093631 A 19850719 [IT1093631]
TI - CILINDRO AD INFLESSIONE REGOLATA
PA - ESCHER WYSS SA [CH]
AP - IT 20026/78-A 19780206 [1978IT-0020026]
PR - CH 1967/77-A 19770217 [1977CH-0001967]
IC - F16C-000/00
ND - IN IV

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7 / 18 INPADOC - ©INPADOC
PN - GB 1593966 A 19810722 [GB1593966]
TI - CROWN CONTROL ROLLS
PA - ESCHER WYSS LTD
AP - GB 6438/78-A 19780217 [1978GB-0006438]
PR - CH 1967/77-A 19770217 [1977CH-0001967]
IC - F16C-013/00
ND - IN IV AR

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8 / 18 INPADOC - ©INPADOC
PN - FR 2381201 B1 19800829 [FR2381201]
TI - CYLINDRE A REGLAGE DE LA FLEXION
PA - ESCHER WYSS SA [CH]
AP - FR 7804406/78-A 19780216 [1978FR-0004406]
PR - CH 1967/77-A 19770217 [1977CH-0001967]
IC - F16C-013/00; B21B-027/00; B41F-013/24
ND - IN IV

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PN - FR 2381201 A1 19780915 [FR2381201]
TI - CYLINDRE A REGLAGE DE LA FLEXION
PA - ESCHER WYSS SA [CH]
AP - FR 7804406/78-A 19780216 [1978FR-0004406]

PR - CH 1967/77-A 19770217 [1977CH-0001967]
IC - F16C-013/00; B21B-027/00; B41F-013/24
ND - IN IV

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10 / 18 INPADOC - ©INPADOC
PN - ES 466692 A5 19781116 [ES-466692]
TI - PERFECCIONAMIENTOS EN LOS CILINDROS DE AJUSTE DE LA FLECHA.
PA - ESCHER WYSS AG [CH]
AP - ES 466692/78-A 19780206 [1978ES-0466692]
PR - CH 1967/77-A 19770217 [1977CH-0001967]
IC - F16C-000/00
ND - IN IV

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PN - ES 466692 A1 19781016 [ES-466692]
TI - PERFECCIONAMIENTOS EN LOS CILINDROS DE AJUSTE DE LA FLECHA.
PA - ESCHER WYSS AG [CH]
AP - ES 466692/78-A 19780206 [1978ES-0466692]
PR - CH 1967/77-A 19770217 [1977CH-0001967]
IC - F16C-000/00
ND - IN IV

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12 / 18 INPADOC - ©INPADOC
PN - DE 2707657 C2 19821202 [DE2707657]
TI - DURCHBIEGUNGSEINSTELLWALZE
IN - LEHMANN ROLF [CH]
PA - ESCHER WYSS AG [CH]
AP - DE 2707657/77-A 19770223 [1977DE-2707657]
PR - CH 1967/77-A 19770217 [1977CH-0001967]
IC - B65H-027/00; B65H-023/34

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13 / 18 INPADOC - ©INPADOC
PN - DE 2707657 A1 19780831 [DE2707657]
TI - DURCHBIEGUNGSEINSTELLWALZE
IN - LEHMANN ROLF
PA - ESCHER WYSS AG
AP - DE 2707657/77-A 19770223 [1977DE-2707657]
PR - CH 1967/77-A 19770217 [1977CH-0001967]
IC - B65H-027/00; B65H-023/34
ND - AR

WXR - 1978-63625A (C)

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14 / 18 INPADOC - ©INPADOC

PN - CH 614502 A 19791130 [CH-614502]
TI - DURCHBIEGUNGSEINSTELLWALZE.
IN - LEHMANN ROLF [CH]
PA - ESCHER WYSS AG [CH]
AP - CH 1967/77-A 19770217 [1977CH-0001967]
PR - CH 1967/77-A 19770217 [1977CH-0001967]
IC - F16C-013/00; F16C-032/06; D21G-001/02; B41F-013/08

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15 / 18 INPADOC - ©INPADOC

PN - CA 1057986 A1 19790710 [CA1057986]
TI - CONTROLLED DEFLECTION ROLL
IN - LEHMANN ROLF
PA - ESCHER WYSS LTD
AP - CA 296650/78-A 19780210 [1978CA-0296650]
PR - CH 1967/77-A 19770217 [1977CH-0001967]
IC - F16C-013/00; D21G-001/02
ND - AR

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16 / 18 INPADOC - ©INPADOC

PN - BR 7800929 A 19780919 [BR7800929]
TI - ROLO DE FLEXAO AJUSTAVEL
IN - LEHMANN R
PA - ESCHER WYSS AG
AP - BR 7800929/78-A 19780216 [1978BR-0000929]
PR - CH 1967/77-A 19770217 [1977CH-0001967]
IC - D21G-001/02
ND - AR

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17 / 18 INPADOC - ©INPADOC

PN - AT 351927 B 19790827 [AT-351927]
TI - DURCHBIEGUNGSEINSTELLWALZE
PA - ESCHER WYSS AG [CH]
AP - AT 1166/77-A 19770222 [1977AT-0001166]
PR - CH 1967/77-A 19770217 [1977CH-0001967]
IC - D21G-001/02
ND - IN IV

18 / 18 INPADOC - ©INPADOC

PN - AT 1166/77 A 19790115 [AT7701166]
TI - DURCHBIEGUNGSEINSTELLWALZE
PA - ESCHER WYSS AG [CH]
AP - AT 1166/77-A 19770222 [1977AT-0001166]
PR - CH 1967/77-A 19770217 [1977CH-0001967]
IC - D21G-001/02
ND - IN IV

WEST

Generate Collection Print

L2: Entry 3 of 6 File: DWPI Nov 14, 2002

DERWENT-ACC-NO: 1999-011685
DERWENT-WEEK: 200282

TITLE: Calender intermediate roller - has a hollow and cylindrical roller core supported at the ends by vertical bearing adjustment on a keyed roller axis

INVENTOR: BRENDEL, B; SVENKA, P

PRIORITY-DATA: 1997DE-1023519 (June 5, 1997)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
DE 59805869 G	November 14, 2002		000	D21G001/00
EP 882838 A1	December 9, 1998	G	008	D21G001/00
DE 19723519 A1	December 10, 1998		000	D21G001/00
EP 882838 B1	October 9, 2002	G	000	D21G001/00

INT-CL (IPC): D21 G 1/00

ABSTRACTED-PUB-NO: EP 882838A
BASIC-ABSTRACT:

At least one intermediate roller, in a calender assembly, has a keyed roller axis to take a hollow cylindrical and rotating roller core. The hollow cylinder of the roller core (10) has a vertical support at the roller axis (14), for a simple support system at the end side.

USE - The calender assembly is for processing a moving web, especially of paper.

ADVANTAGE - The structure reduces faults in setting the geometry of the pressure nips between rollers.

WEST

Generate Collection Print

L2: Entry 2 of 6 File: DWPI Jun 17, 2003

DERWENT-ACC-NO: 1999-359398
DERWENT-WEEK: 200341

TITLE: Rotary press printing machine operating method

INVENTOR: BEISEL, H; JUNGHANS, R

PRIORITY-DATA: 1997DE-1056077 (December 17, 1997)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 6578481 B1	June 17, 2003		000	B41F031/00
EP 924072 A1	June 23, 1999	G	021	B41F031/15
DE 19756077 A1	June 24, 1999		000	B41F031/15
JP 11240139 A	September 7, 1999		014	B41F031/15
EP 924072 B1	August 22, 2001	G	000	B41F031/15
DE 59801242 G	September 27, 2001		000	B41F031/15

INT-CL (IPC): B41 F 7/36; B41 F 31/00; B41 F 31/15; B41 F 31/32; B41 F 33/10

ABSTRACTED-PUB-NO: EP 924072A
BASIC-ABSTRACT:

NOVELTY - A rotary press printing machine (1) has an ink system (6) which includes at least one axial oscillating ink transfer cylinder (15,16) with adjustable lift. The printing machine is first operated in an interrupt mode, at which the cylinder oscillates with a minimum lift, and subsequently in a print mode, at which the cylinder oscillates with a normal lift, whereby the lift amplitude is increased before beginning the print operation.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is provided for an arrangement implementing the operating method.

USE - For operating rotary press printing machines.

ADVANTAGE - Minimizes print flaws due to short interruption of printing process.

DESCRIPTION OF DRAWING(S) - The figure shows a schematic representation of a system for operating a printing machine.

rotary press printing machine 1

ink system 6

ink transfer cylinder 15,16
ABSTRACTED-PUB-NO:

EP 924072B EQUIVALENT-ABSTRACTS:

NOVELTY - A rotary press printing machine (1) has an ink system (6) which includes at least one axial oscillating ink transfer cylinder (15,16) with adjustable lift. The printing machine is first operated in an interrupt mode, at which the cylinder oscillates with a minimum lift, and subsequently in a print mode, at which the cylinder oscillates with a normal lift, whereby the lift amplitude is increased before beginning

the print operation.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is provided for an arrangement implementing the operating method.

USE - For operating rotary press printing machines.

ADVANTAGE - Minimizes print flaws due to short interruption of printing process.

DESCRIPTION OF DRAWING(S) - The figure shows a schematic representation of a system for operating a printing machine.

rotary press printing machine 1

ink system 6

ink transfer cylinder 15,16

WEST

Generate Collection Print

L2: Entry 6 of 6 File: DWPI Jan 21, 1982

DERWENT-ACC-NO: 1982-06052E
DERWENT-WEEK: 198204

TITLE: Web pressure roller - has pressure sensor at roller ends to control pistons bearing against roller ends

PRIORITY-DATA: 1980DE-3024570 (June 28, 1980)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
DE 3024570 A	January 21, 1982		018	
DE 3024570 C	December 17, 1987		000	
FI 8101725 A	February 26, 1982		000	
GB 2080487 A	February 3, 1982		000	
GB 2080487 B	November 23, 1983		000	
US 4392288 A	July 12, 1983		000	

INT-CL (IPC): B21B 13/14; B29C 15/00; D21G 1/00; F16C 13/00

ABSTRACTED-PUB-NO: DE 3024570A
BASIC-ABSTRACT:

A pressure sensor is located between the pressure sources and the ends of the cross beam or the end points of the counter roller. This delivers a signal for use by the control unit.

Designed for use with a pressure roller to treat fabric or paper web materials, the assembly increases the precision of the pressure delivered to the roller, and distributed along it, to increase the pressure on the medium in the roller chamber.
ABSTRACTED-PUB-NO:

DE 3024570C EQUIVALENT-ABSTRACTS:

A pressure sensor is located between the pressure sources and the ends of the cross beam or the end points of the counter roller. This delivers a signal for use by the control unit.

Designed for use with a pressure roller to treat fabric or paper web materials, the assembly increases the precision of the pressure delivered to the roller, and distributed along it, to increase the pressure on the medium in the roller chamber.
(18pp)